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Crohn's Disease – Disease for Immunologists, Proctologists, Gastroenterologists or Rheumatologists?

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Abstract: Crohn's Disease (CD) most commonly affects the terminal portion of the small intestine and the large intestine. CD can also affect any other part of the gastrointestinal tract, from mouth to anus. Inflammation of the intestines is usually not continuous, areas inflammation (foci of inflamed bowel) interspersed with normal areas intestines (segmental lesion). Depending on the severity of the inflammation the inner layer of the intestinal wall (mucosa) may turn red (erythematous) and swollen (edematous) with ulcers of different sizes and shapes (aphthae's, superficial, deep, longitudinal), and the mucous membrane can have the appearance of a "cobblestone pavement". These lesions extend throughout the thickness intestinal wall and can lead to complications such as stenosis of the intestinal lumen and / or germination in other organs (penetration), resulting in abscesses (infiltration of intestinal contents into the abdominal cavity) or fistulas (channels that connect the intestinal cavity with the skin or neighboring organs, for example, the bladder, or with other intestinal loops and through which they enters the contents of the intestine). In addition, in a significant number of patients, CD can affect various parts of the body outside the digestive tract, usually the skin, joints, and eyes. These extra-intestinal manifestations may also occur before the development of typical intestinal symptoms of CD (see below), and sometimes they cause more anxiety and more difficult to treat than intestinal symptoms.

Keywords: Crohn's disease, Inflammation, Manifestation, Treatment.

Introduction

Regional or granulomatous ileitis is a chronic bowel disease (Crohn's disease) that covers all the layers of the intestinal wall (transmural lesions), and sometimes spreads to the mesentery, regional lymph nodes affecting both the small and large intestines, but most often localized in the terminal section of a thin guts (regional, terminal ileitis). These diseases can be accompanied by damage to the peripheral joints, spine, or joints and spine. The clinical manifestations of the joint syndrome in both processes are the same. It is important to note that the course of ankylosing spondylitis (AS) varies greatly from person to person. So too can the onset of symptoms. Although symptoms usually start to appear in late adolescence or early adulthood (ages 17 to 45), symptoms can occur in children or much later in life.

The most common early symptoms of AS are frequent pain and stiffness in the lower back and buttocks, which comes on gradually over the course of a few weeks or months. At first, discomfort may only be felt on one side, or alternate sides. (Danoy P, et all., 2010; Burton PR, et all., 2007). The pain is usually dull and diffuse, rather than localized. This pain and stiffness is usually worse in the mornings and during the night, but may be improved by a warm shower or light exercise.

Note that AS can present differently at onset in some people. This tends to be the case in women more than men. Quoting Dr. Elaine Adams, "Women often present in a little more atypical fashion so it's even harder to

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make the diagnosis in women." For example, we have heard anecdotally from some women with AS that their symptoms started in the neck rather than in the lower back. (Mielants H, et all., 1995; Thjodleifsson B, et all., 2007).

Varying levels of fatigue may also result from the inflammation caused by AS. The body must expend energy to deal with the inflammation, thus causing fatigue. Also, mild to moderate anemia, which may also result from the inflammation, can contribute to an overall feeling of tiredness.

Chronic inflammatory arthritis, a hallmark of several inflammatory rheumatic diseases, and inflammatory bowel disease are both life-long conditions, with substantial morbidity and even mortality. These diseases are highly prevalent—for example, chronic arthritis has a frequency of approximately 2%–3% within a given population. Interestingly, the co-existence of gut and joint inflammation was found to be prominent in spondyloarthritis, a family of interrelated rheumatologic diseases. (Jacques P, Elewaut D., 2008).

Number of typical clinical and genetic characteristics, including peripheral arthritis (particularly of lower limb joints) as well as inflammation of the axial skeleton (e.g., spine). Moreover, different forms of may also affect other organs, such as the skin (psoriasis) or the eye (anterior uveitis), demonstrating the systemic nature of these diseases. Various subtypes have been described based upon clinical features, but any two may share important characteristics. (Burton PR, et. all., 2007).

The prototypical disorder of the family is Ankylosing spondylitis (AS), which is characterized by prominent inflammation of the axial skeleton (spine, sacroiliac joints), although other joints may also be affected. Other diseases include infection-triggered reactive arthritis, some forms of juvenile idiopathic arthritis, arthritis in association with inflammatory bowel diseases (IBD), and some forms of psoriatic arthritis.

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These diseases can be accompanied by damage to the peripheral joints, spine, or joints and spine. The clinical manifestations of the joint syndrome in both processes are the same. The pathogenesis of the intestinal process and joint damage has not been fully established, but it is believed that many mechanisms participate in it, and in particular, toxic, immune, autoimmune. In the blood of patients, antibodies to the cells of the intestinal mucosa, lymphocytotoxin antibodies, circulating immune complexes, in which, possibly, antigenic components of intestinal microbes, etc., are also present.

In Crohn's disease, articular manifestations usually occur in childhood and adolescence. The development of peripheral arthritis in these diseases is usually not associated with the carriage of the histocompatibility antigen B27. Ankylosing spondylitis is more common in men than in women (3: 1). This disease usually develops in people who have HLA B27. Articular changes with regional ileitis occur more often in patients with other extraintestinal manifestations of the processes - with ulcers of the oral mucosa, exacerbate erythema nodosum, gangrenous pyoderma.

Method

In Crohn's disease, articular manifestations usually occur in childhood and adolescence. The development of peripheral arthritis in these diseases is usually not associated with the carriage of the histocompatibility antigen B27. Ankylosing spondylitis is more common in men than in women (3: 1). (Braun J, Sieper J., 2007).

This disease usually develops in people who have HLA B27. One particularly interesting aspect of the paper is the elucidation of a strong association with genes implicated in the Th17 pathway, a lymphocyte subset that has gathered much attention lately because of its prominent role in a variety of immune-mediated inflammatory disorders, including psoriasis and CD. While the association of AS with the receptor for IL-23, which is implicated in the expansion and survival of Th17 cells, has been previously reported, Danoy and co-workers provide two additional links to the Th17 pathway.

Firstly, they report a clear association with STAT-3, which is, amongst other things, implicated in IL-23R signal transduction. In addition, an association with the p40 subunit shared between IL-12 and IL-23 was revealed. It is intriguing that so many genes predispose to AS. The functional significance of these associations is, however, presently unclear.

For example, some of the IL-23R single nucleotide polymorphisms associated with AS may confer either protection or susceptibility to the disease. Nevertheless, more than 30 years after the discovery of HLA-B27 as a strong hereditability factor for AS, further evidence points to an important genetic susceptibility for adaptive immunity shared with CD.

Results and Discussion

Crohn's disease (CD) (regional enteritis, granulomatous ileitis) is an inflammatory disease involving all layers of the intestinal wall in the process; characterized by intermittent (segmental) nature of the lesion of various sections of the gastrointestinal tract. It is characterized by diarrhea mixed with mucus and blood, abdominal pain (often in the right iliac region), weight loss, and fever. In the clinical picture are characteristic: bleeding from the rectum, rapid bowel movement, tenesmus; abdominal pain is less intense than with Crohn’s disease, localized most often in the left iliac region. (Orchard, Holt, & Bradbury, 2009).

With these intestinal pathologies, damage to the joints of the lower extremities is most characteristic. As a rule, there is an acute onset of the joint syndrome in the form of monoarthritis with damage to the knee or ankle joint on one side. After several days, symmetrically involved knee, ankle, shoulder, elbow joints, he defeat of small joints is less characteristic. In CD, joint syndrome can manifest itself with migratory arthralgia, as well as erosive arthritis and joint deformity. (Sulima.& Sulyma, 2020).

Crohn’s disease is associated with a type of rheumatologic disease known as seronegative spondyloarthropathy. This group of diseases is characterized by inflammation of one or more joints (arthritis) or muscle inserts (Enthesitis). Arthritis in Crohn's disease can be divided into two types.

The first type affects the greater weight of the supporting joints, such as the knee (the most common), hips, shoulders, wrists, or elbows. The second type symmetrically includes five or more small joints of the arms and legs. Arthritis may also include the spine, leading to ankylosing spondylitis if the entire spine is involved, or simply sacroiliitis if only the sacroiliac joint is involved. Symptoms of arthritis include painful, warm, swollen, stiff joints, and loss of joint mobility or function.

Conclusion

Diagnosis of extraintestinal manifestations of Crohn's disease still requires significant efforts by a immunologist, gastroenterologist, rheumatologist and proctologist to effectively treat patients with these problems.

Recommendations

It is recommended to use the available data in the diagnostic program in patients with complications in Crohn's disease.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPHELS journal belongs to the authors.

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